



Transport for London

London Highway Maintenance and Projects Framework

Technical Specification - Part 3

Appendix 33

Central, North and South Areas

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Numbered Appendices

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Appendix 33/1A Safety Inspection: Frequencies

The *Contractor* shall carry out safety inspections on the network lengths identified in the *Client's* Scope at the frequencies shown in table 33.1.

Table 33.1

| | Risk Category / hierarchy | | Frequency |
|--------------------|---------------------------|---------------------------|-----------|
| Carriageways | R1 | Very High Flows | 1 week |
| | R2 | High Flows | 1 month |
| | R3 | Medium Flows | 1 month |
| | R4 | Low Flows | 1 month |
| Footways | F1 | High Pedestrian Density | 1 week |
| | F2 | Medium Pedestrian Density | 1 month |
| | F3 | Low Pedestrian Density | 3 months |
| Cycling Facilities | C1 | High Cycle Flows | 1 week |
| | C2 | Medium Cycle Flows | 1 month |
| | C3 | Low Cycle Flows | 3 months |
| Water Bodies | Balancing Ponds | | 1 month |
| | Culverts | | 6 months |

Appendix 33/1B Safety Inspection: Recording hazards and defects

During safety inspections the inspector shall record hazards or defects which pose a risk to highway users. The following list of defects is provided for guidance and is not exhaustive. Such defects, including those of lesser significance than those listed below, shall be recorded if the inspector considers them to pose a risk or to be appropriate for recording and monitoring.

This information is used to inform defect risk assessment, to track defect progression, and where necessary, to flag defects for more regular inspection.

1. Carriageway

- a) A pothole 20mm or deeper over 100cm² or more within 1.5m of the kerb or within a formally marked cycle lane
- b) A pothole 30mm or deeper over 100cm² or more elsewhere
- c) Spalling concrete 20mm or deeper over 400 cm² or more
- d) Crowning of 40mm or more over a 3m length
- e) A depression of 40mm or more within a 1m length or 25mm or more within a 300mm length
- f) Rutting of 40mm or more
- g) A longitudinal surface opening or crack 20mm or wider, 40mm or deeper and 500mm or longer
- h) An oil or diesel spill over 1m²

- i) Missing or defective anti-skid surfacing over 1m²
- j) Standing water 10mm or deeper over 500mm in width adjacent to the kerb or 20mm or deeper over 1m² or more elsewhere
- k) Debris, building materials, abandoned vehicles or other obstruction likely to create a hazard
- l) Inadequate signing or guarding of works

2. Pedestrian Crossing

- a) A trip of 20mm or more

3. Footway

- a) A trip of 20mm or more
- b) A pothole 20mm or deeper over 100cm² or more
- c) A rocking slab or block with 20mm or more movement
- d) A gap or crack 20mm or wider, 20mm or deeper and 200mm or longer
- e) Damaged, misaligned or defective tactile paving likely to create a hazard
- f) Standing water 10mm or deeper over 1sqm or more
- g) Cellar flaps, access doors, vents or skylights likely to create a hazard
- h) Damaged, misaligned or defective street furniture likely to create a hazard
- i) Height clearance less than 2.1m to footway below signs or overhanging trees or vegetation
- j) A tree base 20mm or more below footway level
- k) A damaged or defective tree grid likely to create a hazard
- l) Advertising, scaffolding, hoarding, building materials, vegetation or other obstruction likely to create a hazard
- m) Inadequate signing or guarding of works
- n) Missing riverside life preservers.

4. Shared Path/Cycle Track

As for footway but

- a) Height clearance less than 2.5m to cycle path or cycle track below signs or overhanging trees or vegetation
- b) A longitudinal surface opening or crack 10mm or wider, 40mm or deeper and 500mm or longer
- c) An oil or diesel spill over 300mm diameter
- d) Gully grating unsuitable for cycling
- e) Surface covered by slippery leaves

5. Kerbing

- a) A unit dislodged by 50mm or more horizontally
- b) A unit sunk by 20mm or more compared to an adjacent unit
- c) A unit rocking with 20mm or more of movement
- d) A missing unit

6. Ironwork

- a) A broken or cracked cover likely to create a hazard
- b) A worn or polished cover likely to create a hazard

- c) A missing cover
- d) A rocking cover or frame likely to cause a hazard or noise nuisance
- e) Ironwork sunk or projecting by 20mm or more
- f) Fluid discharging and likely to create a health or safety hazard
- g) A missing gully grating
- h) A blocked gully likely to create a hazard
- i) A broken or cracked gully grate likely to create a hazard

7. Grass verge

- a) Rutting of 75mm or more
- b) Inadequate signing or guarding of works

8. Road Markings

- a) 30% or more missing, faded or worn over a 1m length

9. Traffic Signals, Lighting, Bus Stops, Bus Shelters, Signs, Bollards, etc

- a) A damaged, misaligned or defective item likely to create a hazard
- b) A missing item likely to create a hazard
- c) Obscured, dirty or faded items likely to create a hazard
- d) Exposed wiring
- e) An open or missing door protecting electrical apparatus
- f) A traffic signal lamp failure
- g) Soiled or malfunctioning drinking fountain

10. Fencing, Safety Fencing and Barriers

- a) A damaged, misaligned or defective item likely to create a hazard
- b) A missing item likely to create a hazard

11. Trees and Vegetation

- a) Obstructing visibility of signs or sight lines
- b) Obstructing passage in use of the highway
- c) Dead, diseased or infected trees or branches

12. Highway Structures

- a) A damaged, misaligned, loose or defective item likely to create a hazard (eg expansion joint)
- b) Severe cracking or spalling of concrete
- c) Missing items or any evidence of tampering with security features
- d) Inadequate signing or guarding of works

13. Water Bodies

- a) Culverts - An accumulation of rubbish, debris or any other material at the mouth of the culvert likely to create a flooding hazard
- b) Balancing Ponds – Insecure or damaged fencing, missing or obscured hazard warning signs, fly tipping.

14. Pedestrian Subways

- a) Lighting damaged or not functioning
- b) Wall tiles missing or damaged
- c) A trip of 20mm or more
- d) A pothole 20mm or deeper over 100cm² or more
- e) Damaged stair treads
- f) A gap or crack in the floor 20mm or wider, 20mm or deeper and 200mm or longer
- g) Standing water 10mm or deeper over 1sqm or more
- h) A handrail loose or missing.

15 Obstructions, prevailing hazardous situations or activities introduced by third parties on, over or adjacent to the highway. Such circumstances may include, but are not limited to:-

- a) Dead or diseased trees within falling distance of the highway
- b) Vegetation blocking the footway or obstructing visibility at junctions or traffic signs etc.
- c) Unlicensed building materials obstructing the highway
- d) Obstruction of headroom or hazards from over-sailing awnings
- e) Defective retaining walls
- f) Defective building parapets,

Appendix 33/1C Assessment of Risk

The inspector shall assess defects using the risk based approach described in this appendix, supported by appropriate recognised guidance on risk based inspections for highways.

The inspector shall assess the risk a hazard or defect poses to highway users and determine the appropriate response category. A risk is assessed by evaluating the consequence rating and the likelihood rating where:

- a) Consequence is the outcome (e.g. damage, injury or inconvenience) should a road user encounter a hazard or defect.
- b) Likelihood is the probability (or chance) that a road user (e.g. pedestrian, cyclist or motorist) will encounter the hazard or defect.

Consequences

Consequences are evaluated by assessing the extent of damage, injury or inconvenience likely to be caused given the hazard or defect is encountered. Factors that shall be taken into account when assessing consequences include: speed, road alignment, adjacent facilities (e.g. schools, hospitals), traffic volume, and vulnerability of the road user, e.g. cyclists. It should be noted, that although some factors (e.g. traffic volume) are used to inform likelihood they may also influence consequence.

Consequence shall be rated using the scale in Table 33.2; examples of the consequence are provided; these shall be supplemented by appropriate national guidance and inspector training.

Table 33.2

| rating | Assessment | Example |
|--------|------------------------------------|---|
| 1 | little or negligible consequence | No safety impact, minor aesthetic impact or minor inconvenience |
| 2 | minor or low consequence | Personal minor injury, poor aesthetics and causing some inconvenience |
| 3 | moderate consequence | Personal injury and/or moderate network disruption |
| 4 | major, high or serious consequence | Serious personal injury and/or fatalities and/or major network disruption |

Likelihood

The likelihood is derived from the hierarchy category (Appendix 33/1A) which takes account of the type and number of users. This is adjusted by the safety inspector / person assessing the risk, to take account of the specific location of the defect and road user exposure to it.

Table 33.3 shows the highest likelihood rating that a defect will normally attract on different elements of the network. For example, the highest likelihood rating for a defect on a footway with Medium Pedestrian Density (F2) would be 3 (Medium likelihood). This is the highest likelihood rating normally attributed to the defect, but local location factors, when appropriate, shall be used by the safety inspector to adjust the likelihood rating.

Table 33.3

| Likelihood Rating | Assessment | Hierarchy | | |
|-------------------|----------------------|-------------|---------|-------------|
| | | Carriageway | Footway | Cycle Track |
| 1 | Very low likelihood | | | |
| 2 | Low likelihood | | F3 | C3 |
| 3 | Medium likelihood | | F2 | C2 |
| 4 | High likelihood | R2, R3, R4 | F1 | C1 |
| 5 | Very high likelihood | R1 | | |

The inspector shall assess if the location of the defect influences the likelihood of it being encountered; for example, if a defect is located under a bench, or close to the built-up edge of the footway it may be considered to have a lower likelihood of being encountered. The location factor may be used, for example, to adjust the likelihood as following:

- a) High likelihood that defect will be encountered due to location, e.g. defect in centre of a footpath, cycle route or wheel path – no change to the rating from Table 33.3.
- b) Medium likelihood that defect will be encountered due to location, e.g. defect close to street furniture/tree/kerb – reduce rating from Table 33.3 by one or more categories as assessed by the inspector (but not lower than Very low likelihood).
- c) Low likelihood that defect will be encountered due to location, e.g. defect under a bench or

close to a building – reduce rating from Table 33.3 by two or more categories as assessed by the inspector (but not lower than Very low likelihood).

Risk

The risk score determines the defect response as shown in Table 33.4. The risk score is the product of the consequence rating and the likelihood rating, so has a range from 1 to 20.

The person undertaking the risk assessment shall pay particular attention to any individual hazards or defects that they consider expose road users to any immediate risk to life or serious/severe injury and are therefore unsafe to be left without intervention. Such defects shall have their risk factors escalated in order to achieve a risk rating appropriate to the situation, irrespective of the risk rating derived from tables 33.2 and 33.3.

Table 33.4

| Risk factor | Category of defect | Response |
|-------------|--------------------|---|
| 16 or 20 | ECO* | Attend and take appropriate action within 1 hour for defects affecting principal road** carriageways or High Pedestrian Density footways and within 2 hours for all other Client's Property within the Core Service Area. |
| 10 to 20 | Cat 1 | Make safe or complete temporary repair within 24 hours and permanent repair within 7 calendar days |
| 6 to 9 | Cat 2H | Complete permanent repair within 7 calendar days |
| 3 to 5 | Cat 2M | Complete permanent repair within 28 calendar days or where specifically agreed by the Client continue to monitor the defect. |
| 1 or 2 | Cat 2L | No response required |

* Emergency Call Out

** Classified 'A' roads.